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Notice of Allowability	Application No.	Applicant(s)	
	10/706,316	KUNDINGER ET AL.	
	Examiner	Art Unit	
	Barbara J. Musser	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the interview dated 3/16/06*.

2. ☒ The allowed claim(s) is/are *1-3*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Benefiel on 3/16/06.

The application has been amended as follows: In the claims,

1. (Currently Amended) In a thermoformer apparatus for forming sheets of plastic against ~~a substrate, the improvement comprising~~ respective substrates, including:

a roll stand for receiving a roll of sheet plastic material;

a feed system for advancing a strip of plastic from a roll of plastic sheet on said roll stand and cutting off therefrom pieces of sheet plastic;

a rotary loading table ~~successively said~~ receiving ~~said successive pieces~~ each successively cut piece of sheet plastic ~~to be thermoformed against said respective substrate, said~~ which are singly deposited on said rotary loading table;

a clamping frame and an associated drive system moving said clamping frame over said rotary loading table after each piece of plastic sheet has been deposited thereon;

a rotary drive rotating said rotary loading table ~~rotated~~ after receiving a piece of sheet plastic to reorient ~~each of~~ said piece of sheet plastic ~~sheets with respect to said substrate~~ with respect to said clamping frame;

a drive relatively moving said rotary table and said clamping frame vertically to locate said piece of sheet plastic on said rotary table within said clamping frame;

said clamping frame having a series of clamps thereon operable to grip each piece of sheet plastic after rotation of said rotary load table to reorient said piece of sheet plastic and hold the same in said clamping frame;

said thermoformer apparatus further including an oven located away from said rotary table;

said clamping frame and said piece of plastic sheet held therein moved away from said rotary table by said clamping frame drive system and into said oven;

said thermoformer apparatus further including a forming station having a thermoformer press for forming sheets of plastic located on the opposite side of the oven from the rotary loading table;

said clamping frame and piece of sheet plastic held therein transported from said oven by said drive system after heating of said piece of sheet plastic and into said forming station;

said forming station having tooling therein for receiving a substrate, and said heated piece of sheet plastic located aligned with a substrate in said tooling by said

drive system and thereafter formed and bonded to said substrate in said tooling by said forming station thermoformer press.

2. (New) The apparatus according to claim 1 wherein said rotary table is able to be raised by an elevator drive to locate a piece of sheet plastic deposited thereon to be disposed within said clamping frame.

3. (New) The apparatus according to claim 1 further including a mounting for said roll stand allowing lateral motion and a roll stand drive able of moving said roll stand laterally; and

an edge sensor sensing the location of an edge of said plastic strip and causing activation of said roll stand drive as necessary to maintain a predetermined lateral location of said edge.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach or fairly suggest a thermoformer for bonding together a substrate and a sheet wherein the sheet is placed on a rotary table after being cut from a roll, after rotating, the sheet is moved through an oven locate away from the rotary table, and then is moved into a thermoformer on the opposite side of the oven from the rotary table. While Dean et al. has a clamping frame(50), a rotary table, and a thermoformer(34)(Figure 1), the oven or heater(12,14) is not located away from the rotary table and the thermoformer is not located on the opposite side of the oven from the rotary table. Rhoades et al. has a rotary table, a thermoformer(106), and an

oven(104,105), but the oven and thermoformer are not located away from the rotary table with the oven between the thermoformer and the rotary table. While Arends et al. shows a film off-loading station(12), an oven(14), and a thermoforming station(16) in a line having a clamping frame(A), the reference does not disclose a rotary loading table at the film off-loading station from which the clamping frame moves the film. While Thary shows a rotary table, the purpose of the table is to rotate the film so that a foam can be evenly sprayed thereon.(Figure 6) The film is then immediately moved to a forming station(38)(Figure 5). It would not have been obvious to place an oven between the rotary sprayer and the thermoformer since the compression of the foam in the forming station should occur before substantial curing, indicating the foam should not be heated between the sprayer and the former, particularly since the foam expands completely in 3-25 seconds.(Col. 6, ll. 22-34) Additionally, the film is moved to the former with a clamping frame which rotates about an axis parallel to the ground to invert the film.(Figure 10)

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara J. Musser whose telephone number is (571)

272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJM

SAM CHUAN YAO
PRIMARY EXAMINER